

Appln No. 10/566,052
Amdt date March 22, 2010
Reply to Office action of December 29, 2009

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Please cancel claim 11, amend claims 1-10 and 12-15, and add claims 16-20 as follows:

1. (Currently Amended) A method Method of fixing to the surface of a first part (1) ~~composed of comprising~~ a metal material, a second metal material [(4)] by melting a brazing alloy [(3)] adapted to the second material, the first material ~~being composed of comprising~~ an intermetallic Ti-Al alloy, ~~characterised in that wherein~~ a layer of nickel [(2)] having a thickness of at least 30 µm and is interposed between the first part [(1)] and the brazing alloy, [(3)] wherein said method forms a plurality of successive layers over said first part, wherein said plurality of successive layers comprise a first layer comprising phases α₂-Ti₃Al, τ₂-Ti₂AlNi and τ₃-TiAlNi, and second, third and fourth layers formed respectively of phases τ₄-TiAlNi₂ and γ'-Ni₃Al and of nickel, and a fifth layer comprising the brazing alloy connecting the fourth layer to the second metal material.
2. (Currently Amended) The method Method according to claim 1, wherein the second material is in the form of a second preformed part [(4)] and wherein the layer of nickel [(2)] and the brazing alloy [(3)] are pressed between the first and second parts [(1, 4)].
3. (Currently Amended) The method Method according to claim 1, wherein the second material is in the form of a coating which is applied to the assembly formed by the first part, the layer of nickel and the brazing alloy.
4. (Currently Amended) The method Method according to claim 1, wherein the layer of nickel is in the form of a preformed sheet [(2)].

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5. (Currently Amended) The method Method according to claim 1, wherein the layer of nickel is in the form of a covering.
6. (Currently Amended) The method Method according to claim 5, wherein the covering of nickel is deposited by electrolytic means.
7. (Currently Amended) The method Method according to claim 1, wherein the layer of nickel [[(2)]] has a thickness of at least 30 μm and preferably of at least 40 μm .
8. (Currently Amended) The method Method according to claim 1, wherein the second material is a nickel-based alloy.
9. (Currently Amended) The method Method according to claim 1, wherein the ~~whole to be treated is first part, the layer of nickel, the brazing alloy and the second material are~~ brought to a temperature higher than the melting temperature of the brazing alloy for at least 10 minutes in a vacuum.
10. (Currently Amended) The method Method according to claim 9, wherein the method is carried out under a residual pressure of less than 10^{-3} Pa.
11. (Canceled)
12. (Currently Amended) The method Composite metal part according to claim [[11]] 1, wherein the first layer (5) ~~contains~~ comprises islets [[(5-1)]] of $\alpha_2\text{-Ti}_3\text{Al}$ dispersed in a polyphase matrix [[(5-2)]] comprising $\tau_2\text{-Ti}_2\text{AlNi}$ and $\tau_3\text{-TiAlNi}$.
13. (Currently Amended) The method Composite metal part according to claim [[11]] 1, wherein the first layer comprises a first sub-layer of $\alpha_2\text{-Ti}_3\text{Al}$ and a second polyphase sub-layer comprising $\tau_2\text{-Ti}_2\text{AlNi}$ and $\tau_3\text{-TiAlNi}$.

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14. (Currently Amended) The method Composite metal part according to claim [[11]] 1, wherein the first layer comprises a first sub-layer of α_2 -Ti₃Al, a second sub-layer of τ_2 -Ti₂AlNi and a third sub-layer of τ_3 -TiAlNi.

15. (Currently Amended) The method Composite metal part according to claim [[11]] 1, wherein [[the]] said [[other]] second metal material [[(4)]] is a nickel-based alloy.

16. (New) A composite metal part formed using the method as recited in claim 1, comprising said first part and said plurality of successive layers over said first part, and a second part fixed to said first part via said plurality of successive layers, wherein said plurality of successive layers comprise the first layer comprising phases α_2 -Ti₃Al, τ_2 -Ti₂AlNi and τ_3 -TiAlNi, and the second, third and fourth layers formed respectively of phases τ_4 -TiAlNi₂ and γ' -Ni₃Al and of nickel, and the fifth layer comprising the brazing alloy connecting the fourth layer to the second metal material.

17. (New) The composite metal part according to claim 16, wherein the first layer comprises islets of α_2 -Ti₃Al dispersed in a polyphase matrix comprising τ_2 -Ti₂AlNi and τ_3 -TiAlNi.

18. (New) The composite metal part according to claim 16, wherein the first layer comprises a first sub-layer of α_2 -Ti₃Al and a second polyphase sub-layer comprising τ_2 -Ti₂AlNi and τ_3 -TiAlNi.

19. (New) The composite metal part according to claim 16, wherein the first layer comprises a first sub-layer of α_2 -Ti₃Al, a second sub-layer of τ_2 -Ti₂AlNi and a third sub-layer of τ_3 -TiAlNi.

20. (New) The composite metal part according to claim 16, wherein said second metal material is a nickel-based alloy.